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Lashing Out at "The Six Myths"

We're Still With You, NSF Assures "Little Science"

Like a fast-food chain fighting evil rumors of kangaroo meat in the burgers, the National Science Foundation is lashing out at "myths" that it is forsaking the little guy in the academic lab.

The myths, such as they may be, are partially of NSF's own making, since it has opportunistically jumped aboard the competitiveness bandwagon and has been talking up its promotion of academic research centers linked to industrial goals. Add in that NSF took a three-percent cut from Gramm-Rudman last year, and that its clientele, even in the best of seasons, is anxiety-ridden, and the ingredients for nasty rumors are abundant. And they have been flourishing, though the Foundation's spending and planning figures do not support emphatic conclusions about a turn away from "little science."

What the budget figures show, according to data that the Foundation supplied upon request from SGR, is that "little science"—defined as research groups of up to three people—continues to receive, by far, the biggest share of NSF's resources. However, the share for little science has been dropping—from 64.4 percent of the total in 1985 to an estimated 60 percent in the current fiscal year, 1987, with about the same estimated for the 1988 budget, now before Congress.

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Meanwhile, the share for groups of three or more researchers went from 7.1 percent of the budget in 1985 to an estimated 11.3 percent for this year. However, since the NSF budget rose from $1.5 billion in 1985 to $1.6 billion for this year (with $1.9 billion sought for next year), little science has at least held its own.

Nonetheless, the charges of betrayal of a sacred mission persist, and they are visibly bothersome to NSF's exuberantly self-confident Director, Erich Bloch, who has frequently contested and ridiculed complaints that he is leading the Foundation away from its historic role (SGR March 1, 1987) as the patron of the individual investigator. But despite his disavowals, scientific constituents have been telling their Congressmen that NSF is going bad under the regime of former IBM Vice President Bloch. As a result, the Foundation is paying more attention to the defense of its political flanks. Part of this effort emerged May 1 in the form of a call to arms, "The Fiscal Year 1988 Budget—Myths and Realities," from the manager of NSF's money, Controller Sandra D. Toye, and addressed to "All NSF Program Staff"—the people who deal with applicants and grantees.

In a three-page memorandum, accompanied by 40 pages of charts and tables on budgets and programs, Toye warned that "misinformation and misinterpretation" are dangerous to NSF's ambitious growth plans, and asked for "assistance in making sure that your colleagues and associates have a clear and accurate picture of what is in the NSF budget proposal—and what is not!"

The Toye memorandum lists "The Six Myths" that it says are afflicting NSF, and warns: "As the Congress

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In Brief

Despite a plebiscite in which 43 members of the Association of American Universities (AAU) agreed to a moratorium on pork-barrel lobbying, the word on Capitol Hill is that this may be a banner year for so-called earmarked funds for campus labs. AAU didn't identify the 10 dissenters and two abstainers in its ranks, but SGR is advised they include Columbia, Brown, University of Indiana, Boston U., Northwestern, Catholic, and Texas (Austin).

One of the earmarked items coming along is $7.6 million (atop $3 million provided last year) for the Center for Molecular Medicine and Immunology at the University of Medicine and Dentistry of New Jersey. It was written into a Department of Energy authorization bill that's progressing through the House Science, Space, and Technology Committee. The guiding hand is Rep. Robert Roe (D-NJ), Chairman of the full Committee. Says a veteran budget hand in the Executive Branch: "There's a whole bunch more lurking in the wings."

A verdict of scientific fakery has been rendered by the Alcohol, Drug Abuse, and Mental Health Administration against Stephen E. Breuning, the influential psychologist whose misdeeds were extensively described in SGR March 15 and April 1, 1987. ADAMHA has recommended to the Justice Department "that prosecution of Dr. Breuning be considered"—a rare if not unique step in the annals of science fraud. It has also recommended steps to recover $185,000 in research funds awarded to the University of Pittsburgh, where Breuning formerly was a researcher.

. . . Research Centers Gain, But So Do Other Programs

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begins the long process of forging a 1988 budget, misperceptions of this kind, repeated by a constituent or an interest group, can have a serious influence on the public debate." Stating that she has encountered "misinformation and misinterpretation" in "essentially friendly audiences" of scientists and engineers, Toye cautioned that on Capitol Hill, criticisms of NSF's spending plans "are doubly harmful if they come from within the research and education community."

The Toye inventory of alleged "Myths and Realities" is as follows:

Myth No. 1: "All of the increases in the NSF budget [proposed for 1988] are for centers." Response: Of the $270 million increase that's being sought, $80 million is for "research centers and groups," while $99 million is budgeted for "disciplinary research and facilities" and $91 million "to improve the human resource base"—NSF's catchall term for its array of science education programs, from elementary-school curriculum development through graduate fellowships.

Myth No. 2: "The focus on competitiveness means that NSF is deemphasizing basic research and putting all its efforts in applied work." Response: Competitiveness requires "new ideas and educated people," and "Those are the areas in which NSF expects to make an impact." (Considering the seriousness of this "myth," and its widespread acceptance among university scientists, the response is remarkably skimpy.)

Myth No. 3: "NSF is sharply reducing support for individual investigators." Response: " . . . disciplinary research is receiving the largest dollar increase in the 1988 budget, bringing total support for that category to more than $1 billion. The overwhelming majority of that category is support for individual investigators."

Myth No. 4: "All of the planned growth for NSF is in research: education is not sharing in the increase." Response: Proposed spending on education is up by the same 17 percent requested for the overall NSF budget next year, and while the White House has endorsed a doubling of total NSF spending between 1987 and 1992, NSF is planning to triple funds for the Science and Engineering Directorate in that period.

Myth No. 5: "NSF has no way to track special programs that cross directorate lines; money for such activities just disappears, and NSF cannot account for its use"—a roundabout way of stating charges that NSF employs budgetary ruses to fend off critics. Response: NSF knows how to track funds that "cross organizational boundaries . . . . Status reports are available on-line for current programs, and detailed awards lists and other documentation are publicly available for prior years."

Myth No. 6: "NSF ignored the advice of its own National Science Board by failing to expand undergraduate programs." Response: Undergraduate programs are budgeted for a $38 million increase in fiscal 1988—in dollars and percentage, one of the biggest programmatic increases in all of NSF.

The Toye memorandum, though within the bounds of propriety for a government official, is essentially a polemic designed to enlist the staff in a lobbying effort for Bloch's designs for the Foundation. It makes no assertion that cannot be factually supported, but it does leave out a good deal—such as the relatively minor budget share that NSF allots to the derelict field of science education, $99 million this year out of a total NSF budget of $1.6 billion. And even under the five-year growth plan, science education will still remain the most poorly supported branch of NSF. In the early days of the Foundation, nearly half its budget was assigned to education.

Serving a clientele given to gossip, anecdotes, and insecurity, NSF has for many years spawned myths of one sort or another. But in former times, a paper addressing them would have been unthinkable, since the old NSF went to considerable lengths to keep out of sight in Washington. But with next year's budget hopes pushing $2 billion, and competitiveness linked to R&D, NSF is no longer a timid wallflower. Though it may appear meaningless for lame-duck Ronald Reagan to endorse a doubling of the budget, to $3.2 billion by 1992, there's plenty of enthusiasm on Capitol Hill for doing it, and with a budget of that size, NSF becomes interesting in many quarters that previously ignored it. Moreover, Director Bloch does not refrain from hard-sell politicking in behalf of his agency.

Last year provided a demonstration of NSF's response to budget adversity in Congress: A law-breaking scream for university presidents, industrial brass and others to lobby against threatened cuts in spending (SGR October 1, 1986). NSF later conceded that the appeal may have been out of bounds, but it didn't prom-

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Small Research Groups Lose NSF Budget Share—But

Is "little science" losing favor at NSF? The Foundation's record-keeping methods aren't keyed to providing a clear answer to that sensitive question. But the available data show slow growth in awards for individual investigators, postdocs, and graduate students. But at the same time, a growing share of NSF's rising budget has been going to research groups of more than three members. Conclusion? It's hard to say.

In fiscal 1985 (which began October 1, 1984), NSF received 37,500 proposals, and made 14,157 awards shared among 14,986 senior scientists, for a total of $176 million. With many of these awards for part-time activities, the full-time equivalent (FTE) in senior scientist man-years came out to 3740. In addition, NSF provided support for 3500 postdocs and 13,500 graduate students.

In fiscal 1986, the number of applications dropped by nearly 1000, to 36,600. Why? That was the year of Gramm-Rudman's debut, which clipped NSF by 3 percent, and perhaps some applicants were discouraged by grim budget forecasts. In any case, the outcome was 13,980 awards shared by 14,819 senior scientists, for a total of $174 million. A slight decline all around, but not in FTE man-years, which rose to 4100. Possible explanation: In a hard year, researchers were attributing more time to their NSF-supported work. The number of postdocs remained nearly unchanged—at 3497, but in line with NSF policy of bringing along young talent, the number of graduate students rose from 13,500 in 1985 to 14,100 in 1986.

The figures for the current fiscal year, 1987, are listed as "estimates," but the final returns won't be much different. NSF says it will receive about 41,000 proposals this year, and that it will make 14,700 awards to be shared by 15,875 senior investigators, for a total of $196 million. It estimates the postdoc total at 3660 and graduate students at 14,600.

The fiscal 1988 budget—still awaiting Congressional action—assumes 45,700 applications, and 15,740 awards to 17,400 senior scientists, for a total of $210 million. Postdocs are forecast at 3900 and graduate students at 16,700.

The share of NSF funds to groups larger than three investigators has increased markedly, but still remains a small part of NSF spending. In fiscal 1985, 64.4 percent of NSF's $1.5-billion budget was awarded to groups no larger than three; 7.1 percent went to groups of over three.

In fiscal 1986, when the total budget dropped to about $1.4 billion, the percent of funds to the small groups remained almost unchanged, at 63.4 percent of the total, but the bigger groups increased their take, to 8.4 percent of the NSF budget.

In the present fiscal year, with the total budget at $1.6 billion, the receipts of the small groups is expected to decline to 60.7 percent, while the bigger groups are estimated at 11.3 percent. Approximately the same shares are forecast for the $1.9 billion budget requested for fiscal 1988.

NSF's "Myths" *(Continued from page 2)*

ise not to do it again.

Bloch says that NSF and its constituents must adjust to the fact that science and national needs are dynamic, and that priority-making for science cannot be entrusted to nostalgia for long-ago styles of conducting research. The increased emphasis on centers, he contends, reflects the technological realities of doing modern science, and is not a product of his industrial background or personal whim.

Bloch is the most assertive and combative Director of NSF in its 37-year history. His manner is rough and his reign there has aroused more dissidence than is generally recognized. But so far, he's on a winning streak. The White House endorsement of a doubled budget represents a triumph of missionary work by Bloch and his close collaborator, Roland W. Schmitt, the GE Senior Vice President who chairs the National Science Board, NSF's senior policymaking body.

Nonetheless, the appearance of so odd a document as "Myths and Realities" suggests that NSF is encountering more political drag than is readily visible.—DSG

New Science TV Series to Be Produced by Pittsburgh's WQED

A 12-episode, three-year TV science series, *Infinite Voyage,* is in the works at WQED, the PBS channel in Pittsburgh, with financial support from the Digital Equipment Corporation, and advice from the National Academy of Sciences. With TV science not selling well, the series keeps the field alive, but just barely.

WQED and the Academy previously collaborated on the TV series *Planet Earth.* Continuing from that series into the new one as Co-Executive producers are Gregory Andorfer, WQED Vice President for National Programming, and Thomas Skinner, Executive Vice President.

The programs, described as "high-quality scientific adventure," will be offered to PBS stations and "a select group of commercial stations in major metropolitan markets." WQED says they will be aired quarterly starting this fall. The Digital supported series is described as "a multi-million-dollar project," but the sums involved were not disclosed.

SDI: After High Hopes, Europe Getting R&D Crumbs

London. Numbers were never attached to Washington's exhortations for Europe to get in on the Strategic Defense Initiative and its contractual riches. But high expectations were encouraged, and much esteem was expressed for the technological capabilities that Europe could provide for SDI. The intense courtship was also obviously linked to the Administration's desire to show a skeptical Congress that the allies were on board, but that point was naturally subdued. Now, with the salesmanship phase completed, the reality is that only a tiny sliver of SDI money is crossing the Atlantic—perhaps $50 million of the $10 billion that has been appropriated over the past three years.

Britain has received most of the SDI money going to Europe, some $34 million, according to the UK Ministry of Defense. Of this sum, about $24 million has gone to industrial firms, and the rest to university research groups and government laboratories. France is number two in SDI receipts, with contracts totaling about $5 million. The figures for Italy haven't been stated, but they're believed to be no more than a few million dollars. For West Germany, the sums are minuscule—a mere $50,000, according to the German Foreign Ministry. All these countries, except France, have formal agreements with the US covering SDI work. Britain was the first to sign up, an event that took place with considerable ceremony in December 1985. Germany signed its SDI agreement in March 1986, and Italy followed in September. Israel and Japan have also entered into formal agreement to participate in SDI.

A Line to the Pentagon

These deals are intended to give industry in the participating countries a communications channel into the Pentagon's contracts-awarding procedures. To some degree, the link has worked. In Britain, for example, the intergovernmental agreement has provided industry with a range of contacts in the US military establishment which it would have been hardpressed to develop on its own. All the countries, however, have collided with the Pentagon's inherent reluctance to award foreign organizations largescale contracts in highly classified programs. In addition, many European companies interested in SDI work have discovered that they lack the experience and systems-engineering skills to compete with the giants of US defense research, some of which have been involved with missile defense problems since the 1960s.

Most of the European contracts have involved small-scale projects, mostly of a theoretical nature, rather than the provision of hardware, which is where the big contracts are. The studies have encompassed areas such as European SDI "architecture," which is focused on how an SDI shield for the US could be extended to cover Europe. Also involved in some of the European work on SDI are optical computing, sensors, and clever software for battle-management systems. According to the more skeptical observers, these studies are not likely to lead to large hardware contracts. Rather, it is thought that the US will gather the most appealing ideas and contract them out to American industry.

Joint Ventures with US Firms

A more hopeful route into SDI for many European companies has been joint projects with US concerns. For example, SDI has awarded seven contracts, each worth $2 million, for various consortia to look at European missile defense. Four of the consortia are headed by American firms: LTV, Hughes Aircraft, Lockheed, and RCA. The leaders of the rest are European: Messerschmitt Boelkow Blohm (Germany), SNIA (Italy), and a joint venture between Thomson and Aerospatiale (France). Once again, however, these programs are limited to theoretical studies, and with Europe politically icy toward having its own version of SDI, they're not likely to proceed toward hardware development.

Have the US-European government-to-government agreements been worthwhile for the Old World? In France, where industry is on its own in dealing with SDI, the view is that the agreements have promised more than they have delivered. If France had formally signed up with SDI, "it would have helped in the first few months of efforts to get contracts but not after that," said an official of the French company Matra, which claims "several million dollars" in SDI contracts. The Matra official describes SDI's award of $34 million in contracts to the UK as "a way of showing that the US is grateful to Britain for giving its political support to the program."

The French might envy that sum, but in the UK, it's regarded as miserly by industrialists who have been chasing after SDI contracts. Their view is that getting SDI business has turned out to be far harder than they had expected, at least by the measure of some expectations that have come to light. Two years ago, during the negotiations with the US over the intergovernmental agreement, Michael Heseltine, who was then UK Minister of Defense, let slip a reference to $1.5 billion worth of SDI work flowing to Britain over the next five years. The figure appears to have been somewhere between a wild guess and fervent hope. Heseltine, who has since left the government, has never explained it, and defense officials who are responsible for orchestrating

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Senate Bars the Lures States Are Offering for SSC

The Senate has approved an amendment designed to exclude the economic sweeteners that many states are offering in the competition for the Superconducting Super Collider (SSC).

Introduced by Senator Pete V. Domenici (R-NM), the amendment would ban consideration of anything but suitability of the site. Thus real estate, access to transportation, and existing nearby amenities would remain relevant for siting the hotly pursued $4-billion-plus research facility. But barred from consideration would be various cost-sharing lures that some of the rich states are talking about. In Texas, for example, there's been talk of floating bonds to finance part of the construction cost, and several of the richer states, including New York and California, have set up funds of several million dollars to enhance their prospects.

The spectacle of state and regional organizations bidding for a federal facility is nothing new, but the politics of the SSC dictated a prominent role for cost-sharing. The Office of Management and Budget had no stomach for the behemoth machine and its crafty backers, but the bitter budget numbers were easier to swallow when accompanied by assurances that state funds would be involved. In announcing its go-ahead for the machine, the White House and the Department of Energy heavily stressed that favorable points would be assigned competitors who chipped in.

New Mexico's Domenici, in tandem with legislators from other less-affluent states, raised the legitimate question of whether all the taxpayers are to be clipped to help make the rich richer. If his amendment survives the legislative mill, it won't lessen the intensity of the competition or the eagerness of some states to hang out the richest possible welcome. But, if the project does proceed, a great political eruption is inevitable if the winner happens to be one who offered lots of extra goodies.

Meanwhile, the nationwide stampede for the SSC provides it with formidable political momentum, but serious hurdles remain, and rational pessimism exists among some knowledgeable supporters on the Washington scene. First of all, Congress has not yet authorized the project and there's no specific appropriation for it. The Department of Energy says it can get along at this stage by reprogramming $10 million in general funds this fiscal year and $35 million next year. But before it can go beyond those trivial sums, Congress must pass a law saying there shall be a Superconducting Super Collider and then it must pass a law appropriating funds. The opportunities for ambush, confusion, delay, and miscalculation are manifold. As reported here May 15, two House members with sound credentials on technical matters, Reps. Buddy MacKay (D-Fla.) and Don Ritter (R-Pa.), are urging a delay on the SSC.

Then there's the issue of leadership in the pro-SSC

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SDI *(Continued from page 4)*

Britain's involvement in SDI research are certainly fed up with him for mentioning that extravagant amount.

It must be noted, however, the Pentagon has done its bit to raise expectations about SDI money coming to Britain. Last year, the chief of SDI, Lt. Gen. James Abrahamson, spoke confidently in London of contracts worth several hundred millions of dollars for British research organizations over the next few years. Today, expectations are subdued. In March, Stanley Orman, the defense civil servant in charge of Britain's SDI liaison office, said he expected the sum total of SDI contracts with the UK to reach $100 million by the end of 1987. A few weeks ago, one of his colleagues conceded that even this amount might be unattainable; he said $50 million might be a more realistic figure.

The shortfall is not due to lack of effort by the UK government. The Defense Ministry has a team of 30 officials, including seven based in the US, working on SDI liaison. These officials are assigned to pursue and work out SDI contracts for British firms. And so far, SDI has contracted with quite a few companies in the UK, including Hunting, Marconi, British Aerospace, Ferranti, and Logica. Orman has visited the US nine times in the past year to strike up business. But the big money remains elusive.

A veteran of US-UK collaboration on the Polaris missile program, Orman says that the Pentagon has told US defense firms it looks favorably on deals with British companies. But he says that he has found that a lot of persuasion is required to break down the American defense establishment's reluctance to involve foreigners in sensitive projects.

With the figures kept by the West German Foreign Ministry painting an extremely bleak picture of the dividends from the agreement to participate in SDI, government officials there are even more skeptical about SDI's willingness to do business in their country. (Privately arranged contracts are not included, in the Ministry's totals, but they are not thought to amount to significant sums.) "German firms may well have been expecting more to come out of SDI," said a German government official. He added, "The sum of the German contracts has certainly been small if you consider what has been spent on the program overall."—Peter Marsh

(The writer is technology correspondent of the London *Financial Times*.)

Biomedical Ethics Board Still Stalled in Congress

What's happening with the Congressional Biomedical Ethics Board, established by legislation in November 1985 to serve as Congress's focal point for studies of health care and ethics? The answer: Nothing.

It is motionless in the troubled waters of "right-to-life" politics, and so far lacks any appointments to the 14-member Advisory Committee which is essential to its operations. Since the Committee is responsible for appointing a staff, there's no staff. There's not even an office or telephone number.

The Board does have a full complement of Senate and House members—12 in all, divided between the two parties. They're the ones who are deadlocked about the Advisory Committee, but there are political incentives for not forcing the issue. Senator Albert Gore (D-Tenn.), Vice Chairman of the Board, is running for President, and the word is that to the extent that he can spare time for the politically inconsequential Biomedical Ethics Board, he's not disposed to inflame the abortion issue. The Board met briefly at the beginning of this year to elect its two officers, and hasn't met since; no meeting is planned.

The politics of the Board, according to a Congressional source, are conducted on the run, mainly in hurried telephone calls between Gore and the Board's Chairman, Rep. Willis Gradison (R-Ohio). Last year, the Board asked the Office of Technology Assessment to supply a list of qualified candidates for the Advisory Committee; OTA, with advice from the Institute of Medicine, filled the order, but then the fighting began, as various Board members, finger to the wind on the right-to-life issue, took rigid stands on this or that prospect, or the absence of a favored choice. Identified by one source as the "pro-lifers" on the Board are Republican Senators Gordon J. Humphrey (NH) and David Durenberger (Minn.), and Represenatives Thomas A. Luken (D-Ohio) and Thomas J. Bliley Jr. (R-Va.).

According to the founding legislation, membership on the crucial Advisory Committee is to be allotted as follows:

- Four members "distinguished in biomedical or behavioral research."
- Three "distinguished in the practice of medicine or otherwise distinguished in the provision of health care."
- Five "distinguished in one or more of the fields of ethics, theology, law, the natural sciences (other than the biomedical or behavioral sciences), the social sciences, the humanities, health administration, government and public affairs."
- Two "who are representatives of citizens with an interest in biomedical ethics but who possess no specific expertise."

While the Board remains inert, the clock is running on a major task written into the founding Act: the preparation of a report to Congress on fetal research, to be delivered 30 months after the Board's official creation—which was November 20, 1985. That means it's due in May 1988, a date set in anticipation of the October 1988 expiration of federal restrictions on fetal research. A report on genetic engineering is also prescribed, but it's not due until 18 months after the Advisory Committee is established. Nothing is being done on either report.

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campaign. The trumpet has been rather tinny since the departure in April of Alvin Trivelpiece, the SSC's longtime shepherd at DOE, for the comfy post of Executive Officer of the American Association for the Advancement of Science. He has not been replaced at DOE. Meanwhile, DOE Secretary John S. Herrington is regarded on Capitol Hill as a bush leaguer, and even less is thought of the other possible leader for the SSC campaign, White House Science Adviser William R. Graham. An academic figure who recently met with Graham has expressed surprise at what he describes as Graham's ignorance of who's who in Congress and how things work there.

From within DOE comes this forecast: In the current session of Congress, "We'll get half a loaf" for the SSC—meaning that it won't be sanctified in legislation, but it won't be sidetracked.

That means that site applications and the evaluation process will proceed toward a great political rendezvous. The DOE timetable calls for announcing the chosen site in January 1989—which is when the next President takes office. Will he accept a decision arrived at under his predecessor? Maybe, but the winner will owe many political debts, and who knows how, if at all, the SSC may figure in that possibility?

NAS Plans Paper on Genetic Engineering

A "White Paper" on "Introduction of Recombinant DNA-Engineered Organisms into the Environment: What Are the Issues?" is being prepared for the Council of the National Academy of Sciences by a committee chaired by Arthur Kelman of the University of Wisconsin.

White Papers—an institutional form of thinking aloud—are a rarity for the venerable Academy, which means that recent controversies over uncontrolled release are very bothersome to mandarins high up in the organization.

The last venture along these lines at the NAS was a 1984 paper, "Science and Creationism: A View from the Academy." The Kelman paper is expected this month.

Academic-Industry Lobby Group Issues R&D Legislative Agenda

The Council on Research and Technology (CORETECH), the affluent new lobbying alliance of big research universities and high-tech industry, has issued a short-term legislative agenda "to boost US research and development." It has also announced plans to draft a long-term program to be presented to Congress next year. Goals on the agenda for the current legislative season:

• Permanent status for the R&D Tax Credit, which was temporarily extended last year until December 1988, and restoration of the 25 percent incremental rate, which Congress cut back to 20 percent.

• Permanent status for the Basic Research Tax Credit, which provides incentives for industry to support basic research in non-profit institutions. The credit, part of the 1986 Tax Reform Act, is due to expire in December 1988.

• A "compromise" solution on the "861 issue," which refers to a Treasury Department Regulation that requires industry to allocate a portion of domestically performed research to foreign income. Industry claims the provision is a disincentive to domestic research. CORETECH says it supports a proposal that would set the percentage of R&D for deduction against US income at 67 percent.

• Support for the Administration's request for a 17 percent budget increase next year for the National Science Foundation.

• Support for the University Research Facilities Revitalization Act of 1987, which would authorize $250 million a year for 10 years to renovate and build academic research facilities. The bill was introduced in April by Rep. Robert A. Roe (D-NJ), Chairman of the House Science, Space, and Technology Committee. It is designed as a counter to pork-barrel raiders who insist that their behind-the-scenes grabs are necessary because the federal government provides little support for laboratory construction on campus.

Founded last February, CORETECH is descended from a bygone lobbying organization that was focused only on tax issues affecting industry (SGR April 15, 1987). The cornerstone of the alliance with academe is the 56-member Association of American Universities, the Washington-based voice of the big research universities.

With the industrial and academic sectors finding a convergence of interests in federal policies affecting R&D, CORETECH has experienced phenomenal growth in its first year of operations. Its membership now consists of 73 universities, 36 "research-intensive" corporations, 16 professional and educational associations, six research institutes, and six affiliates. And it's still growing.

To the Editor:

Protests on OTA, Grant Swinger

I was greatly puzzled by your comment (SGR April 15, 1987) that "OTA (Office of Technology Assessment) has virtually abandoned the long-range look at emerging technologies . . . which was heavily emphasized in the debates that led to its creation 15 years ago." If you look at the list of our current and recently completed work, it seems to me that we've been wrestling with an extraordinarily broad array of emerging technologies and long-range implications.

Of course, we *are* pretty much limited (in the choice of major studies) by the felt needs of [Congressional] committees of jurisdiction; but I honestly don't feel that's a net drawback, because a substantial part of the value of our product derives from the fact that we have well-defined primary clients with clout.

There's a pertinent quote by Peter Drucker that I want to share: "Long-range planning does not deal with future decisions, but with the future of present decisions."

John H. Gibbons
Director, OTA
US Congress

Editor's note: In a Q&A (SGR April 15), Grant Swinger, Director of the Center for the Absorption of Federal Funds, cited public ignorance of scientific terms.

Several Brown University readers were disturbed by Swinger's examples of the scientific ignorance of Americans. Your point could have been made in a much more appropriate manner:

• Superconductor—a driver of a fast train
• Fiber optics—a new see-through breakfast cereal
• Thin films—a new type VHS tape

We were truly surprised and disgusted at seeing such writings in what we have come to accept as a professional journal. Certainly an apology for such poor taste is in order to your large audience as well as absolute abstention in the future.

Philip J. Stiles
Dean of Research, Brown University
Providence, RI

Editor Named for "Issues" Journal

Issues, the reprieved quarterly of the National Academy of Sciences, has a new editor: Steven Marcus, formerly an editor at *High Technology*, MIT *Technology Review*, and once a science reporter for the *New York Times*. A quarterly founded in 1984, *Issues* has been saved from termination, scheduled for this summer, by a grant of $150,000 a year for three years from the University of California.

Last of a Breed, "Discover" Moves to a New Publisher

Discover, sole survivor of the fizzled pop-science magazine boom of recent years, has been sold by Time Inc. to a New York firm, Family Media, which plans to continue publication of the financially ailing monthly. Founded in 1980, *Discover* is reported to have lost at least $70 million.

The sale, for $26 million, comes just 11 months after Time Inc. bought out *Science86,* published by the American Association for the Advancement of Science, and *Science Digest,* published by the Hearst Corporation. With subscribers who transferred from the purchased lists, *Discover* was guaranteeing advertisers a rate base of 925,000 for the coming July issue, plus a "bonus" of another 225,000.

But, healthy as those figures were, advertisers tended to regard the *Discover* audience as an unfavorable market for consumer goods and services. As one observer put it, "The typical reader is a high school teacher whose last big purchase was a '72 Volkswagen." For the past two years, the demise of *Discover* was a regular item in publishing's rumor mills. The surprise is that it brought a hefty price and will survive.

Advertising was actually picking up in recent months, but still remained far short of the level required to sustain Time's prodigal style of editorial operations. Two years ago, for example, the magazine was conspicuously "re-launched" at a long weekend of planning and festivities at a private club in the Bahamas, with scores of editors, writers, advertising salesmen, and others in attendance as Time's guests. Time subsequently took the full back page of the first section of *The New York Times* for a long series of ads announcing a "new" *Discover,* with a new team of editors and writers. *Discover* also indulged heavily in expensive mail promotions—a bottomless pit in the magazine business.

Up to the announcement of the sale, Time Inc.'s management insisted that it was committed to continuing the magazine. Time has been trimming the staffs at many of its other operations, but *Discover* was untouched by the cutbacks; its latest staff roster stood at 74—far more than any of its bygone competitors in the science genre.

Family Media is a privately held publishing firm that is said to be doing well with its mixed stable of six monthly magazines: *Savvy, Health, World Tennis, Golf Illustrated, 1001 Home Ideas,* and *Homeowner.* Their total circulation is reported to be over four million. The new owner plans to install its own team of editors, and will surely incur less extravagant operating costs.

The $26 million sale invites attention to the far lower price that the AAAS received last year in its hurried sale of *Science86* to Time Inc. The price was $3.75 million down, $2.25 million over five years, plus up to $1 million for subscribers who renewed for *Discover*—a maximum of $7 million. Circulation figures are highly fudgable, but when *Science86* was sold out in a fire-sale atmosphere by a panicky AAAS leadership, its mailing list was said to total 700,000. An effort by the editorial staff to buy out the magazine and keep it going received little cooperation from the AAAS (see SGR August 1, 1986: "*Science86*: Did This Magazine Have to Die?").

Discover's birth, in 1980, occurred during a period of remarkable optimism in the magazine industry about the public's appetite for skillfully produced "translations" of serious scientific work. The turn of the decade also brought the introduction of the AAAS monthly and the upgrading of Hearst's previously skimpy *Science Digest.* Another entry was Penthouse's apparently successful *Omni,* a lavishly illustrated odd mixture of serious pop science, science fiction, and fantasy.

The optimism was justified in terms of readership, since altogether, some three million subscribers were buying these magazines at the height of their sales. But apart from *Omni,* which has its own formula, they couldn't get enough advertising to run profitably.

But there's still plenty of high-quality science writing being produced for general audiences. Over 70 newspapers now publish weekly science sections; many are pretty thin, but some are excellent. In addition, there's the weekly *Science News,* plus several well-written and edited magazines, such as *The Sciences,* published by the New York Academy of Sciences; the MIT *Technology Review,* and the *American Scientist,* published by Sigma Xi.—DSG

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